

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application.

***Listing of Claims:***

1. **(Currently Amended)** A medical prosthetic device or medical implant comprising a metal material selected from the group consisting of titanium or an alloy thereof, zirconium or an alloy thereof, tantalum or an alloy ~~thereof~~, thereof, hafnium or an alloy thereof, niobium or an alloy thereof and a chromium-vanadium alloy,

wherein surface parts of the metal material comprise a layer of a corresponding hydride material selected from the group consisting of titanium hydride, zirconium hydride, tantalum hydride, hafnium hydride, niobium hydride, chromium hydride, vanadium hydride, and chromium-vanadium hydride,

wherein the layer of hydride material comprises one or more biomolecule substances, said biomolecule substance being an ampholyte.

2. **(Currently Amended)** A ~~device~~ device or implant as claimed in claim 1 or 42, wherein the metal material is titanium or an alloy thereof.

3. **(Currently Amended)** A ~~device~~ device or implant as claimed in claim 1 or 42, wherein the biomolecule substance is selected from the group consisting of natural or

recombinant bio-adhesives; natural or recombinant cell attachment factors; natural, recombinant or synthetic biopolymers; natural or recombinant blood proteins; natural or recombinant enzymes; natural or recombinant extracellular matrix proteins; natural or synthetic extracellular matrix biomolecules; natural or recombinant growth factors and hormones; natural, recombinant or synthetic peptide hormones; natural, recombinant or synthetic deoxyribonucleic acids; natural, recombinant or synthetic ribonucleotide acids; natural or recombinant receptors; enzyme inhibitors; drugs; biologically active anions and cations; vitamins; adenosine monophosphate (AMP), adenosine diphosphate (ADP) or adenosine triphosphate (ATP); marker biomolecules; amino acids; fatty acids; nucleotides (RNA and DNA bases); and sugars.

4. **(Previously Presented)** A device or implant as claimed in claim 1 or 42, wherein the biomolecule substance is interlocked, bound, trapped and/or integrated in or with the hydride material.

5. **(Previously Presented)** A device or implant as claimed in claim 1 or 42, wherein the layer of the hydride material comprises one or more biomolecule substances in an amount of about 1 picogram per  $\text{mm}^2$  to 1 mg per  $\text{mm}^2$ .

6. **(Previously Presented)** A device or implant as claimed in claim 1 or 42, wherein said surface parts of the metal material comprising the layer of the hydride material is adapted to be in contact with bone or other tissue when the device is deployed in the body of a mammal.

7. **(Previously Presented)** A device or implant as claimed in claim 1 or 42, selected from the group consisting of: a prosthetic femoral hip joint; a prosthetic femoral head; a prosthetic acetabular cup; a prosthetic elbow; a prosthetic knee; a prosthetic shoulder; a prosthetic wrist; a prosthetic ankle; a prosthetic hand; a prosthetic finger; a prosthetic toe; a prosthetic vertebrae; a prosthetic spinal disc; a prosthetic cochlea; a prosthetic vessel; and a prosthetic heart valve.

8. **(Canceled)**

9. **(Previously Presented)** A device or implant as claimed in claim 2, wherein the material is titanium.

10. **(Previously Presented)** A device or implant as claimed in claim 5, wherein the layer of the hydride material comprises one or more biomolecule substances in an amount of about 0.1 nanogram per  $\text{mm}^2$  to 100 microgram per  $\text{mm}^2$ .

11. **(Previously Presented)** A device or implant as claimed in claim 1 or 42, wherein said device or implant is selected from the group consisting of: an artificial joint, a dental implant, an ossiculoplastic implant, a middle ear implant, a cochlear implant, an orthopaedic fixation device, a pacemaker, a catheter, a space filling implant, an implant for retention of hearing aids, an implant for external fixation, an intrauterine device (IUD) and a bioelectric device.

12. **(Previously Presented)** A device or implant as claimed in claim 7, wherein said prosthetic elbow implant is adapted to replace a stem, wedge or articular insert.

13. **(Previously Presented)** A device or implant as claimed in claim 7, wherein said prosthetic knee implant is adapted to replace a femoral component, a tibial component, stem, wedge, an articular insert or a patellar component.

14. **(Previously Presented)** A device or implant as claimed in claim 7, wherein said prosthetic shoulder implant is adapted to replace a stem or head.

15. **(Previously Presented)** A device or implant as claimed in claim 11, wherein said middle ear knee implant is adapted to replace an incus, a malleus, a stapes, an incus-stapes, a malleus-incus, or a malleus-incus-stapes.

16. **(Previously Presented)** A device or implant as claimed in claim 11, wherein said orthopaedic fixation device is a nail, screw, staple or plate.

17. **(Previously Presented)** A device or implant as claimed in claim 11, wherein said bioelectronic device is an intracochlear or intracranial electronic device.

18-40. **(Canceled)**

41. **(Previously Presented)** A device or implant as claimed in claim 1 or 42, wherein said device or implant is sterile.

42. **(Previously Presented)** A medical prosthetic device or medical implant comprising a metal material selected from the group consisting of titanium or an alloy thereof, zirconium or an alloy thereof, tantalum or an alloy thereof, hafnium or an alloy thereof, niobium or an alloy thereof and a chromium-vanadium alloy,

wherein surface parts of the metal material comprise a layer of a corresponding hydride material selected from the group consisting of titanium hydride, zirconium hydride, tantalum hydride, hafnium hydride, niobium hydride, chromium hydride, vanadium hydride, and chromium-vanadium hydride, and

wherein the layer of hydride material comprises one or more biomolecule substances, said biomolecule substance exhibiting a net positive charge dissolved in a salt solution having an ionic strength within the range of from 0.01 to 10 M, a temperature within the range of from 20 to 100°C, and a pH within the range of from 0 to 10.